

REMARKS

Claims 1-59 were pending and considered in the office action for the instant application. Claims 6, 19, 32, 45, and 55 were objected to under 37 CFR 1.75(c) as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. Claims 6, 19, 32, 45, and 55 were objected to as containing typographical errors. Claims 1, 14, 27, 40, and 50 were rejected under 35 USC 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which the applicants regard as their invention. Claims 1-59 were rejected under the judicially created doctrine of obviousness-type double patenting as being allegedly unpatentable over claims 1-44 of U.S. Patent No. 6,839,606 in view of Rebello et al. (U.S. Patent No. 6,430,455). Claims 1-7, 9, 10, 14-20, 22, 23, 28-33, 35, 36, 40, 47, 50-55, and 57 were rejected under 35 USC 103(a) as being allegedly unpatentable over Kiridena et al. (U.S. Patent No. 5,659,493), in view of Bhargava et al. (U. S. Patent No. 6,219,055). Claims 8, 11-13, 21, 24-26, 34, 37-39, 46, 48, 49, 56, 58, and 59 were rejected under 35 USC 103(a) as being allegedly unpatentable over Kiridena, in view of Bhargava, and further in view of Rebello (U.S. Patent No. 6,430,455).

Claims 1, 14, 27, 40 and 50 have been amended. Claims 6, 19, 32, 45, and 55 have been canceled. Claims The Applicants submit that claims 1-5, 7-18, 20-31, 33-44, 46-54 and 56-64 are in condition for allowance and requests reconsideration and withdrawal of the outstanding rejections. No new matter has been entered.

Claim objections

Claims 6, 19, 32, 45, and 55 have been objected to under 37 CFR 1.75(c) as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. Claims 6, 19, 32, 45, and 55 have been objected to as containing typographical errors.

In response to items 2 and 3 of the office action, applicant has cancelled claims 6, 19, 32, 45 and 55 without prejudice.

Claim Rejections under 35 USC 112, second paragraph

Claims 1, 14, 27, 40, and 50 have been rejected under 35 USC 112, second paragraph, as allegedly failing to particularly point out and distinctly claim the subject matter which the applicants regard as their invention.

In response to item 5 of the office action, claims 1, 14, 27, 40 and 50 have been amended to provide for selection in the alternative.

Double Patenting Rejections

Claims 1-59 have been rejected under the judicially created doctrine of obviousness-type double patenting as being allegedly unpatentable over claims 1-44 of U.S. Patent No. 6,839,606 in view of Rebello et al. (U.S. Patent No. 6,430,455).

In response to item 7 of the office action, applicant herein submits a terminal disclaimer, properly executed on September 19, 2005 to overcome this double patenting rejection. This submission of a terminal disclaimer is not an admission that claims 1-59 are unpatentable when considering Landers, et. al in view of Rebello et al.

Claim Rejections Under - 35 USC § 103

Claims 1-7, 9-10, 14, 27, 40, 50, 15-20, 28-33, 41-45, 51-55, 22-23, 35-36, 47 and 57 have been rejected under 35 USC 103(a) as being allegedly unpatentable over Kiridena et al. (U.S. Patent No. 5,659,493), in view of Bhargava et al. (U. S. Patent No. 6,219,055).

In response to items 9 and 10 of the office action, claim 1 and the remaining independent claims have been amended. The amendment herein is for the sake of clarity. Claim 1 now claims, in part, "selecting a contact area geometry for tooling or fixture modeling; generating a tooling model exhibiting an associative relationship with said contact area geometry; virtual machining said tooling model to generate said fixtures and tooling." Similarly worded claims 14, 27, 40, 50 are similarly amended.

Kiridena et al., teach “a computer representation of a free-form part” “uses a data representation of a High Density Point Data Model (HDPDM).” “The HDPDM is a set of **three-dimensional data points** which are modified by virtual machining techniques to produce a further HDPDM” (col. 2, line 67 – col. 3, line 9). Since the “surface is defined by a collection of points, **each point is defined implicitly** and no explicit definition is required in order to represent or modify the model. The model may be modified by moving the points” (col. 4, lines 40-44).

Kiridena et al., also teach a “virtual tool surface” (col. 2, lines 1-2). The object surface “lies inside the projection of the virtual tool surface” (col. 2, lines 8-9). Virtual machining “utilizes one or more tool ‘virtual tool surfaces’ to modify the HDPDM point representation of the object” (col. 4, lines 49-51). The “surface may be modified by **pushing points down** under the tool” or by “**pulling points up** to the tool surface.” “The tool surface may be translated iteratively with respect to the object surface” (col. 5, lines 12-15). The “**tool surface could take the form of a quarter-cylinder**” “or, in the alternative, the virtual tool could take the form of a single line arc (a surface one data point wide) (col. 5, lines 61-66). Kiridena et al. does not disclose or suggest use of other tools not presented therein. Kiridena et al. does not disclose or suggest “virtual machining said tooling model” as is claimed in claim 1.

Accordingly, it is considered that Kiridena et al., do not disclose or suggest a “contact area geometry” as is claimed in claim 1. Further, Kiridena et al. do not disclose or suggest a “tooling model” as is claimed in claim 1.

Further, it is noted that Kiridena et al. do not suggest or motivate a reader to combine the teachings therein regarding virtual machining with the teachings of any other reference. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” See *In re Mills* (916 F.2d at 682, 16 USPQ2d at 1432). There is no suggestion or motivation to modify the virtual tool surface in Kiridena et al., such as by a combination with Bhargava et al. Accordingly, applicant objects to the use of Bhargava et al. as a reference in this regard.

Further, it is considered that should there actually be a suggestion or motivation to

combine references, there is no suggestion or motivation to combine Kiridena et al. with Bhargava et al. That is, it is noted that although Kiridena et al. discuss obtaining data from a CAD model (col. 1, lines 44-45), or as a technique "to form the discrete surface segments of a CAD model" (col. 6, lines 9-10), Kiridena et al. expressly point out that the teachings therein do "not suffer from the major deficiencies of the alternative approaches of CAD or math models." (col. 4, lines 18-19); and that the technique may be used where "CAD or mathematical models are ill suited" (Col. 6, lines 14-17). As Kiridena et al. criticize and discredit use of CAD, it is considered that Kiridena et al. teach away from any suggestion or motivation to combine the teachings therein with those of Bhargava et al. Refer to *In re Fulton* (391 F.3d 1195, 73 USPQ2d 1141 (Fed. Cir. 2004)). It is considered that use of Bhargava et al. as a reference in this regard is improper, and applicant also objects to use of Bhargava et al. in this regard and for this reason.

As a note, it is also respectfully submitted that Kiridena et al., column 1, lines 52-64 do not disclose or discuss a "tooling model," as asserted by the Examiner. This section of Kiridena discusses a variety of input means to produce IIDPDM and techniques to obtain coordinates of those points.

For these and other reasons, it is considered that claim 1 (and similarly worded claims 14, 27, 40, 50) are novel and patentable over Kiridena et al. (U.S. Patent No. 5,659,493), in view of Bhargava et al. (U. S. Patent No. 6,219,055) and the prior art of record, and should be allowed.

Dependent claims 60-64 have been added. Support for these newly added claims is found at least on page 31 of the specification, lines 30-32. As the number of dependent claims added corresponds to the number of claims cancelled, no fee payment should be due for this addition.

Though dependent claims 2-5, 7-13, 15-18, 20-26, 28-31, 33-39, 41-44, 46-49, 51-54, and 56-64 contain their own allowable subject matter, these claims should be allowable at least on the basis of their dependence from one of allowable claims 1, 14, 27, 40 and 50. However, to expedite prosecution at this time, no further comment will be made.

CONCLUSION


It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested. It is submitted that the foregoing amendments and remarks should render the case in condition for allowance.

Accordingly, as the cited references neither anticipate nor render obvious that which the applicant deems to be the invention, it is respectfully requested that currently pending claims 1-5, 7-18, 20-31, 33-44, 46-54 and 56-64 be passed to issue.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,
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